

# THE MEDICAL JOURNAL OF AUSTRALIA

(With which "The Australasian Medical Gazette," and "The Australian Medical Journal" are incorporated.)

The Journal of the Australian Branches of the British Medical Association

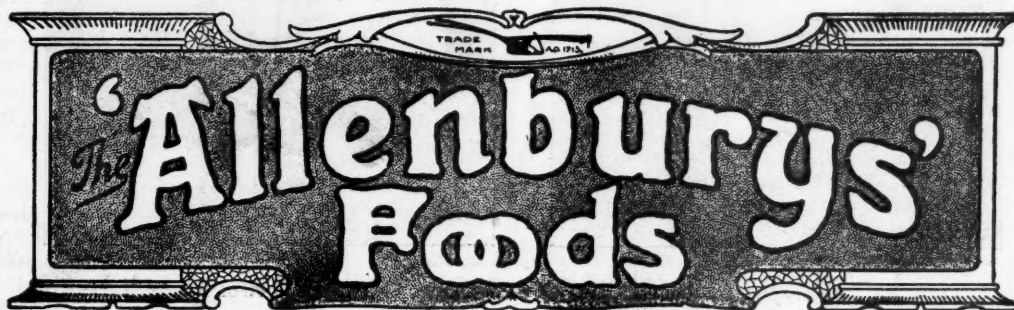
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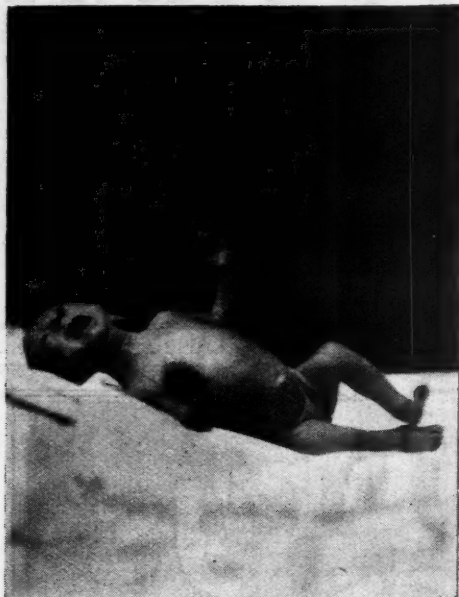
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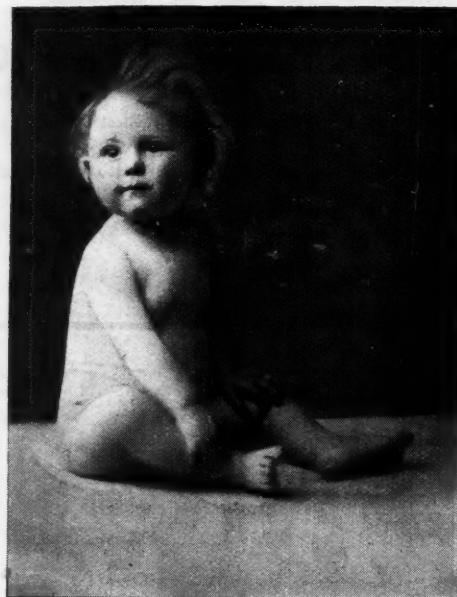
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# THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. II.—3RD YEAR.

SYDNEY: JULY 15, 1916.

No. 2.

## UNDIAGNOSED DISLOCATIONS.<sup>1</sup>

By J. G. Edwards, M.B., M.S. (Sydn.),

Honorary Radiographer, St. Vincent's Hospital, Sydney;  
Honorary Assistant Radiographer, Sydney Hospital.

I would like to draw your attention to-night to a very common form of surgical calamity—the undiagnosed dislocation.

Dislocations are very common injuries, and may occur as simple displacements of the bones of a joint, or they may be complicated by fractures of the bones entering into the formation of the joint.

In 13,000 consecutive X-ray examinations during 1913, 1914 and part of 1915 at the Sydney Hospital, over 10,000 were made for injuries to bones and joints, and among this ten thousand I can find record of 100 dislocations. I have not included the dislocations of the phalanges, except the dislocations of the proximal phalanx of the thumb. Had I included dislocations of the phalanges, the number would be greatly increased.

Fracture-dislocations are also excluded.

The total number of dislocations treated at the Sydney Hospital is greater than these figures would point to, as only cases sent to the X-ray Department are included, many cases of dislocation being reduced in the Casualty Room, without any X-ray examination being made.

The occurrence of individual dislocations was as follows:—

- 31 of the shoulder
- 21 of the elbow
- 14 of the clavicle (including 2 of the inner end)
- 9 of the wrist and carpus
- 8 of the proximal phalanx of thumb
- 6 of the hip
- 6 of the knee (including 3 of patella)
- 5 of the ankle and tarsus

Of course, these numbers are far too few to allow of any definite calculations of percentages, but they give a fair idea of the average percentage rate of occurrence.

In the following notes I wish to refer to dislocations of many days' or weeks' standing, which have received examination and treatment by medical men and have been either diagnosed as fractures or sprains.

Fracture-dislocations, congenital dislocations and spontaneous dislocations (secondary to disease) are not dealt with.

The diagnosis of a dislocation is generally looked upon as a simple matter, but, judging from the large numbers which escape detection, there would appear to be a great possibility of error in our methods.

The great error is failure to make a careful examination.

Every case of injury to a joint should receive a most careful and thorough examination, the patient having the sound limb stripped as well as the injured one. The method of examining the patient through his clothes should be abandoned.

If any possibility of dislocation is present, the case should be radiographed and the medical man should refuse to take any responsibility unless the patient submits to such an examination.

Dislocations are far more common in the upper extremity than in the lower; two-thirds of all dislocations occur in the shoulder and elbow joints (phalangeal dislocations excepted).

From 30% to 50% of all dislocations are dislocations of the shoulder, and particular care should be taken in examining cases of injury to the shoulder, especially in fat subjects.

If the patient is to have a complete restoration of function, the dislocation must be promptly recognized and reduced.

Many changes occur in dislocated joints of long standing, due partly to inflammatory changes following the injury, partly to the changed relations of the parts, and partly to an effort to produce a new joint in an abnormal situation.

In this way scar tissue is formed and bone changes occur, leading to irregular formation of bone.

In elbow dislocations, *myositis ossificans* is very often seen, involving the *brachialis anticus* and greatly interfering with the function of the joint, (see Fig. II.).

The period at which it is possible to reduce a dislocation varies; after a week the possibility of reduction is not great, and after three weeks there is very little prospect of success.

Manipulations for the reduction of old-standing dislocations should be undertaken with great care, otherwise further injury may be caused, such as rupture of the blood vessels or fracture of the bones. In one reported series of 63 cases of attempted reduction of old dislocations of the shoulder, 33 deaths occurred, the majority of which were due to rupture of the axillary vein.

All attempts at reduction of dislocations should be made under deep ether anaesthesia, and only those methods of manipulation should be attempted which conform to the teaching of Galen, *viz.*, "The dislocated head of the bone should be returned to its cavity, along the route by which it has escaped."

All latter-day methods endeavour to follow this teaching, the head of the bone being first brought through the rent in the capsule and then returned to its cavity.

And now to come to the various dislocations which are so commonly overlooked.

### I.—Clavicle.

Dislocations of the inner end are rare and are seldom unrecognized.

Dislocations of the outer end are commonly over-

<sup>1</sup> Read at a Meeting of the New South Wales Branch of the British Medical Association on May 26, 1916.



looked, but failure to diagnose the condition is not a great offence, as the results in untreated cases are not much worse than in treated cases.

A deformity of the outer end of the clavicle, accompanied by pain and tenderness, which disappears on downward pressure and reappears on the release of the pressure, should certainly be diagnosed as a dislocation of the outer end of the clavicle.

## II.—Shoulder.

Dislocations of the shoulder form from 30% to 50% of all dislocations.

This is the dislocation which is more often missed than any other. In 1914 alone I find records of six cases of old, unreduced dislocations. I give the notes of three of these:—

Case 1.—A female, 56 years, was injured eleven weeks previously in New Zealand. She was treated for a fracture of the surgical neck of the humerus. As function was not restored, she came to Sydney, and a skiagram showed that a sub-coracoid dislocation was present (see Fig. I.). Open reduction was attempted, but failed, and the head of the humerus was excised. The result was very good.

Case 2.—A female, 47 years, fell down some steps five weeks previously on to her outstretched hand. A liniment was prescribed for her, but the condition did not improve. A skiagram showed a sub-coracoid dislocation. Open reduction was successful, but the return of function was not complete.

Both these cases occurred in fairly stout women. This class of person seems to be rather subject to shoulder dislocation.

Case 3.—A male, about 60 years of age, fell from a box which he was standing upon. A surgeon examined him through his clothes and ordered a sling. Naked eye examination, as well as skiagraphic examination, showed a sub-coracoid dislocation. No further treatment was undertaken in the case of this frail old man.

These three cases all showed, at the time I saw them, typical clinical signs of dislocation.

No dislocation of the shoulder can be missed if a straight edge is taken and placed along the outer side of the arm, touching the external epicondyle below; if the outer edge of the acromion process can be touched at the same time as the epicondyle, it is absolutely certain that the head of the humerus is not in its normal position.

## III.—Elbow Joint.

Dislocations of this joint are very common.

Swelling is generally present in a marked degree in recent cases, but it subsides, as a rule, within a few days.

Unless the two epicondyles and the tip of the

olecranon can be palpated and shown to be in normal relationship to one another, the diagnosis should be delayed until such time as this relationship can be established.

Fractures of the coronoid process and of the head of the radius are common complications, and often lead to marked limitation of movements during repair, owing to the deposition of callus.

*Myositis ossificans* may also occur, especially in the *brachialis anticus*, and the skiagram which I place before you shows such a case (see Fig. II.).

The possibility of reduction after three weeks is very slight, especially in the young, in whom new bone forms rapidly after injury to the periosteum.

In regard to reduction, the old method of flexion across the knee is wrong, and should never be attempted. Pronation, hyper-extension and traction are the correct manipulations, and should always be practised. After reduction, the joint should be fixed in flexion for two to three weeks before any massage or passive movements are commenced.

Since January, 1916, the following cases of old dislocations have come under my notice:—

Case 4.—A girl, aged 11 years, fell from a chair and injured her elbow. The injury was treated as a sprain. A skiagram three weeks after the accident showed a backward dislocation. Reduction was successful under an anæsthetic.

Case 5.—A male, aged 38 years, was thrown from a horse eight weeks ago. He was treated for a fracture of the neck of the radius. A skiagram showed a forward dislocation of the radius (see Fig. IV.). The after-treatment is unknown.

Case 6.—A male, aged 36 years, fell from a tram. He was treated on a splint, but the

nature of injury was not explained to him by his medical man. A skiagram showed a forward dislocation of the radius. The after-treatment is unknown, but I think an excision of the head of the radius was indicated in both these cases.

Case 7.—A girl, aged 13 years, fell on to her outstretched hand while running. The condition remained undiagnosed for five days. A skiagram showed a backward dislocation. Attempted reduction was unsuccessful, and a second X-ray examination still shows a dislocation. This case is still under treatment.

## IV.—Wrist Joint.

Dislocations at the wrist are practically always diagnosed, but dislocations of the carpal bones are very seldom recognized without X-ray examination.

I would show you skiagrams of two such mid-carpal dislocation, one of many months' standing and one of three years' standing. It is very important

### DESCRIPTION OF PLATE.

Fig. I.

Subcoracoid Dislocation of the Shoulder Joint, eleven weeks after injury.

Fig. II.

Myositis Ossificans following Dislocation of the Elbow Joint.

Fig. III.

Dislocation of the Elbow Joint, three months after injury.

Fig. IV.

Dislocation of the Upper End of the Radius, eight weeks after injury.

Fig. V.

Dislocation of the Hip Joint, three months after injury.

Fig. VI.

Sub-astragloid Dislocation of six months' standing.



Fig. I.



Fig. II.

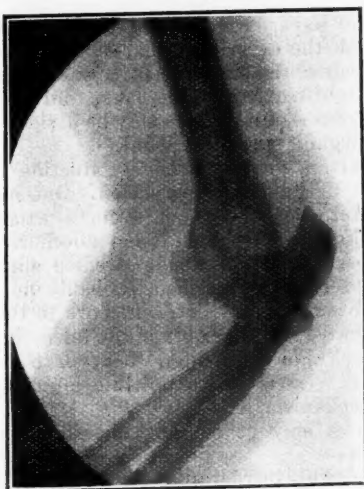


Fig. III.



Fig. IV.



Fig. V.



Fig. VI.

to recognize these mid-carpal cases, as the interference with the functions of the joint is very serious. Phalangeal dislocations will not be dealt with.

#### V.—Hip Joint.

Dislocations of this joint form from 2% to 10% of all dislocations. This joint is a very difficult one for clinical investigation; all the bony landmarks are deeply placed and difficult to palpate, and any swelling in this region makes the examination still more difficult. Careful measurements must be made and careful comparisons made with the opposite limb.

In a normal hip, if a line be drawn from the top of the great trochanter through the anterior superior iliac spine, it will intersect a similar line drawn on the opposite side in the mid-line of the body. An intersection to either side of the mid-line means a displacement of the great trochanter and therefore (in the absence of fracture) of the head of the femur.

I will read brief notes on three undiagnosed cases which I have seen:—

Case 8.—A wharf-labourer, aged 45 years, was struck on the back by a bale of wool. He was able to walk to the ward with aid of an attendant. He did not complain of any pain in the hip, but of pain over the lumbar spine. A skiagram of the spine showed an oblique fracture of the third lumbar vertebra. There were no signs of pressure on nerves. He was discharged from the hospital on crutches, and complained only of some stiffness of both hips. When re-admitted later he complained of a limp. A skiagram of the hip joint showed a dorsal dislocation. An attempt at open reduction failed, and he was discharged with the condition unrelieved. There was practical fixation of the joint by the formation of scar tissue as the result of the operation.

Case 9.—A Government Surveyor's employee, aged 46 years, was standing on the side of a cutting to let a bullock team pass when the earth gave from under him and threw him under the waggon. The bullock drivers pulled him out and decided that his hip was out, and endeavoured to pull it in. They failed, and carried him about fifteen miles to the nearest hospital, where the doctor laughed at their efforts and treated the condition as a fracture of the neck of the femur. After eight weeks on a long Liston splint he was discharged from hospital and came to Sydney. A skiagram showed a typical dorsal dislocation of the hip joint. He also presented all the clinical signs of this injury. He was advised by his surgeon not to have any attempt made to correct the condition.

Case 10.—A railway employee, about 51 years, was caught between trucks three weeks before. He had been treated on a long Liston splint for nearly three weeks. He was sent by his medical man for skiagraphic examination. A skiagram showed a typical dorsal dislocation (see Fig. V.). Under an anæsthetic this dislocation was fortunately reduced, and, when seen by me two weeks later, he could walk with very little pain and complained only of a slight stiffness.

Dislocations of the knee and ankle joints have never been seen by me as dislocations of old standing unaccompanied by fracture. Dislocations of the

tarsal bones are commonly overlooked, and I place before you a case of a subastragaloid dislocation of six months' standing (see Fig. VI.), which had been treated as a Pott's fracture, and another case of some weeks' standing, a mid-tarsal dislocation of the bones at joints anterior to the astragalus and os calcis.

#### NOTES ON HEADACHE FROM THE OTO-RHINOLOGIST'S POINT OF VIEW.<sup>1</sup>

By W. N. Robertson, M.B., M.S. (Edin.),  
President of the Queensland Branch of the British Medical Association, Brisbane.

When Dr. Douglas suggested a few notes on headache, as it came under my notice, I felt that it would not be easy to confine oneself to such a narrow issue, so I may be forgiven if this becomes a very scrappy deliverance. If one went into the whole question of headache, a book might be written without exhausting all the possibilities. Headache has been wittily described by Handfield Jones as a "dis-ease." Those of you who have suffered as I have at times will hardly think the description expressive enough.

To generalize, the successful treatment resolves itself into the discovery of the cause and its elimination. The causes of headache may be divided broadly into two, organic and functional.

An important factor in the production of headache is the mechanism of sensation. One individual would suffer from headache from a cause which would make no impression upon another. A nervous temperament is a strong predisposing factor. Women suffer more than men, probably due in part to their more sedentary life, but more to their more nervous temperament. As age advances headaches become less frequent, owing, I believe, to less resilient cerebral vessels and a possible blunting of the nervous mechanism.

The causes may be roughly classified under the headings of—

- (1) Cranial, intracranial and pericranial affections, such as tumours, gummata, abscesses, meningitis, encephalitis and so on, also pressure from too tight or too heavy headwear.
- (2) Reflexes from the nose, nasopharynx, ear, teeth and eyes.
- (3) Digestive tract; stomach, liver, etc.
- (4) Reproductive system. I used to think that a vertical headache in women always indicated a uterine displacement or leucorrhœa.
- (5) Toxæmia, autogenous from the kidney or liver; gout, constipation, and so on; or heterogenous, e.g., alcohol, tobacco, bad air, etc.
- (6) Anæmia, general debility, etc.
- (7) Neuroses, as migraine.

To come to my own special sphere, the organic conditions met with most often include trouble in the nose, ear, nasopharynx and cranium. In the nose itself, pressure by shelves, spurs, enlarged turbinates, polypi and foreign bodies are a constant source of headache, whilst affections of the sinuses connected

<sup>1</sup> Read at a Meeting of the Queensland Branch of the British Medical Association on May 5, 1916.



with the nose produce a fruitful crop of similar troubles.

I could quote dozens of cases where the removal of a projecting spine on the septum, which was pressing on the inferior turbinal, has completely put a stop to regular headaches, incidentally also ending a constant tendency to cold-catching. The commonest position for this spine is well back on the septum and low down. It is easily overlooked, unless the turbinal is shrunk by the application of cocaine and adrenalin.

A hypertrophic condition of the inferior turbinal, especially the posterior end, is also productive of headache. The relief obtained by the removal of this hypertrophy may be partly due to improved drainage in the nose and the improvement in respiration so produced. Enlargement of the middle turbinal, with septal pressure, is probably the most common cause of nasal headache. Excellent results are frequently secured by snaring off the anterior end or by relieving pressure on the septum by the use of the cautery. I know that some rhinologists object strongly to cauterization of the middle turbinal, but I have never seen any bad results, possibly because I am very conservative in the amount I do at a sitting, and never touch it again until the first scar is properly healed. Here I may remark that the habit of cauterizing the mucous membrane of the nose every few days is most dangerous, and is undoubtedly the cause of the septic manifestations so often heard of after this mild surgical procedure.

When dealing with an enlargement of the middle turbinal caused by a large air cell, I have used a method which I have never seen mentioned. With a thin pair of strong nasal forceps I "squash" the turbinal, which collapses like an egg shell. This relieves all pressure, does not destroy the ciliated epithelium, and prevents the crusting which is liable to occur if a large cystic middle turbinal is snared out. The cavity left is too large if the mass is snared off.

Polypi, if of any size, produce headache, as well as a condition of aprosexia or thickheadedness. These should be removed and any ethmoiditis or sinusitis associated with them thoroughly treated.

Foreign bodies should also be removed and the associated catarrh treated.

Nasopharynx.—In children, headache is frequently caused by adenoid growths. This is more common than is suspected, and can be proved by the relief afforded by the removal of the offending mass. The effects are probably due to defective drainage and air entry and the associated catarrh producing a species of toxæmia.

Fibroid and other growths have a similar effect.

It is not easy to define exactly the type of headache that results from nasal and nasopharyngeal abnormalities, but morning headache and dulness, appearing in children, are commonly associated with adenoids and nasal obstruction. This is due to deficient oxygenation of the blood, owing to defective aeration during the night.

Pain at the root of the nose, over the supra-orbital region and down the side of the nose is most likely due to an enlarged middle turbinal. One is

tempted to blame a sinus, but removal of the anterior end of the turbinal will commonly relieve the condition. I believe the real origin of the pain is in the septum, the nerve endings there being pinched by the enlarged turbinal.

Pain from a frontal sinus is usually felt under the eyebrow, but it may radiate out towards the temple, also over the vertex.

Pain from the maxillary antrum is felt over the zygoma.

Pain from the ethmoidal cells may occur between and behind the eyes, or even over the forehead and top of the head. Lauder Brunton states that ethmoidal pain is frequently felt along the hair margin.

Sphenoidal pain is usually felt in the occiput or deeply behind the eyes. Interference with the function of the eye has been frequently traced to a diseased condition of the sphenoidal sinus or posterior ethmoidal cells. The distribution of pain first given is not at all constant, as all sorts of variations may occur.

Pain from empyemata of the sinuses is usually of a boring, throbbing character, periodic in its incidence. It gradually works up as the sinus fills, when sudden relief may be obtained by the escape of the contents. When an epidemic of influenza is about, it is well to be on the outlook for such symptoms, as the development of pus in the sinuses may be prevented by timely treatment. Inhalations of the vapour of *ol. menth. pip.* or menthol, or the use of adrenalin ointment may cause a shrinkage of the swollen mucous membrane and the escape of retained mucous secretion that would speedily become purulent. Yankauer uses this as a diagnostic agent.

It is very important to bear in mind the large part played by the nose in the production of headache. It may be only after careful examination that the cause of offence may be discovered, as definite symptoms pointing to the nose may be wanting. Apart from headache, the feeling of well-being, induced by a complete freeing of the nose, should cause everyone to include examination of the nose as a routine measure. Patients with nasal obstruction habitually get up feeling more tired than when they went to bed, even if they do not suffer from headache. The same applies to catching cold. It is almost safe to say that a man with a perfectly healthy, free nose never catches cold.

I might mention that aching in the teeth of a neuralgic character may be caused by trouble in a sinus, especially the maxillary. Conversely, a badly-filled tooth, which does not ache, may cause occipital headache or earache.

The Ear.—Headache of aural origin is more often associated with extension of middle ear mischief to the cranial cavity. I well remember a case of a boy of eleven, with a persistent barking cough, associated with much headache, who was brought to me a good many years ago. He was very badly developed, looking as to size about seven years of age, but with an aged look. His cough was of that brassy, ineffective type that suggests a reflex origin. His headache was almost daily. Examination of the chest, nose and throat revealed nothing abnormal, but in the left aural meatus was a mass the size

of a hazel nut, composed of cerumen and epithelial debris, with a core of bone. After removal of this mass, the boy got quite well and developed into a fine youth. Unfortunately, he died of pneumonia at the age of 17.

Intracranial complications of ear disease are meningitis, brain abscess and sinus thrombosis.

The pain from these affections is not likely to be confused with anything else, although the diagnosis is frequently far from easy. The headache from a chronic cerebral abscess is often intermittent, with intervals of complete comfort, but the pain recurs, usually with considerable violence, in an hour or two or longer. The vomiting, rise in temperature and accelerated pulse-rate will help towards a correct diagnosis.

Other intracranial conditions producing headache are tumours, gummata, etc. Last year I recorded a case of cyst of the pituitary, opened through the nose, in which the headache was maddening. Dr. Ahern, who first saw the patient, had no difficulty in arriving at a diagnosis with the help of the associated symptoms.

#### Migraine or Megrim.

This is a form of headache which is not, as a rule, connected with any obvious lesion in the nose, yet I have included it, as the most striking results for its amelioration can be obtained by intranasal treatment. As a rule, it does not begin until about the age of puberty, and gradually abates as later age advances. It is a definite nerve storm, like epilepsy, asthma or other reflex vasomotor neurosis of that type. Hare gives a most fascinating explanation of its origin in his book on the "Food Factor in Disease."

There are usually prodromal symptoms pointing to an attack. In some there is an unusual feeling of well-being, in others drowsiness or constipation. Eye symptoms frequently are most marked, as fortification spectra, hemianopia, spots before the eyes, coloured flashes, etc.

The onset is usually periodic, once a week, fortnight or month. Women often suffer just before the period. There is great flushing on the painful side of the head, with a general blanching of the skin all over the body. The pulse is small and hard. The secretion of urine is diminished until the close of the attack, when a copious flow of low specific gravity urine takes place. This stage may be ushered in by vomiting.

If the fact is grasped that this is a vasomotor neurosis, the indication for treatment is obvious. Hare was able to keep numbers of migrainous patients free for years by cutting down the carbohydrate intake. One of these very patients I was able to relieve completely from her headache, without dieting, by cauterization of the septal mucosa. You are all aware of Francis' work on asthma, in which he pointed out the extraordinary effect of cauterization of the septal mucosa in that disease. The conditions are the same in the two complaints. In megrim you have a vaso-dilation in the temporal region, with a vaso-constriction all over the surface of the body obviously visible; in asthma, you have the same vaso-constriction, with the vaso-dilation in the bronchi

and bronchioles. I can assure you that cauterization of the nasal septum in front and beneath the middle turbinal will relieve 75% of these cases absolutely. I have had at least a couple of hundred of them through my hands.

I met Dr. Godsall in Sydney a short time ago, and he was quite excited over the results he had obtained in similar cases by similar means.

I trust you will excuse this very condensed sketch, but my object shall have been attained if I have again reminded you of the importance of a careful examination of the nose and ears in every case of headache, especially if there is no other very obvious cause.

### Reviews.

#### ANTERIOR POLIOMYELITIS.

We have received a somewhat belated review copy of Professor Maloney's translation of Dr. Ivan Wickman's monograph on acute poliomyelitis.<sup>1</sup> The Stockholm physician is so eminent an authority on this disease that his publications will always command attention and respect. The book itself represents a complete survey of our knowledge of epidemic anterior poliomyelitis up to 1911. It starts with an historical review and, in the course of the account, the author develops his argument against the assumption that epidemic and sporadic anterior poliomyelitis are two separate affections. In the next place, the pathological anatomy is dealt with. In this connexion the reader should exercise critical judgement and remember that many of the views expressed and interpretations advocated are peculiarly those of Wickman. In the main, however, the macro- and microscopical changes met with in the cord are excellently described, and the account may be regarded as a classical one. The third chapter deals with the pathogenesis, and its contents are interesting. The chapter dealing with symptomatology is far less satisfactory than the preceding ones. The author distinguishes eight forms of Heine-Medin's disease. While the spinal poliomyelitic form, the bulbar or pontine form, the encephalitic or cerebral form and the abortive form will probably receive general recognition, it is extremely doubtful whether he is justified in speaking of a meningitic form and a polyneuritic form. A clearer differentiation between infantile paralysis and cerebro-spinal fever on the one hand and peripheral nephritis on the other than the author is inclined to give is, in our opinion, essential to the proper understanding of these diseases. He speaks of a form resembling Landry's paralysis, but does not entertain the proposition that Landry's paralysis may be identical with the disease under discussion. The chapters on diagnosis, prognosis and epidemiology are good.

The work is marred to a certain extent by bad translation. Some sentences are reproduced in the original Swedish construction, and are not English sentences at all. Another defect is contained in the confused use of the first person singular and of the name Wickman. The reader is often left in doubt whether the opinions expressed are those of the translator or of the more illustrious author.

#### THE REGISTRATION OF MIDWIVES.

Under the Health Act, 1911-15, of Western Australia, power is given to the Midwives' Registration Board to prescribe that certain certificates or diplomas issued in the British dominions shall exempt the holder from the examination to be passed under the Act. The Midwives' Registration Board announced, on June 23, 1916, that persons holding the certificates of the Central Midwives' Board of England, or of the Government Maternity Hospital, Madras, India, shall be exempted from the necessity of passing an examination for the purpose of obtaining registration in Western Australia.

<sup>1</sup> Acute Poliomyelitis (Heine-Medin's Disease), by Dr. Ivan Wickman, of Stockholm, translated by W. J. M. A. Maloney, M.D., F.R.S. (Ed.), 1913. New York: The Journal of Nervous and Mental Disease Publishing Company; Royal Soc., pp. 135, two plates and illustrations in the text. Price, \$3.



## The Medical Journal of Australia.

SATURDAY, JULY 15, 1916.

### The Notification of Morbilli.

For a considerable number of years, difference of opinion has been expressed by those best capable of forming a sound judgement as to the probable value of compulsory notification of measles. The principal theoretical objection has been that, since the infectivity of the patient during the prodromal and eruptive stages of this disease is greater than during the later stages, the fact of notification is unlikely to aid the health authority in inaugurating effective prophylactic measures. This argument is probably unsound, more especially because it assumes that the diagnosis is usually not made early, and that the period that elapses before the Medical Officer of Health visits the house or takes steps to trace the source of infection is too long for practical purposes. The Local Government Board determined last year to introduce compulsory notification throughout England and Wales, and we have now the experience of several months of trial on a large scale. At the outset it must be remembered that notification of an infective disease may eventually contribute toward a control of the disease, even if no very apparent results emanate in the course of a few years.

The objects of notification are to enable the public health authorities to trace the source of infection and to prevent that and other foci from giving rise to fresh cases, and in the second place to induce the relatives to submit the patient to treatment at the hands of a registered medical practitioner. The control of the disease cannot be efficient, unless both these aims are achieved. If the sources of infection are to be stopped, it is necessary to ascertain when the infectivity is at its height, how the infection passes on to a new patient and whether an intermediary host is instrumental in conveying the infection from person to person. In the case of measles there is no doubt that the infectivity commences early in the prodromal period. The diag-

nosis can be made during this period by a skilled observer, but even an untutored person, such as the mother of the patient, may be suspicious of measles before the rash appears. In districts where the disease is notifiable, it has been found that mothers call in a medical practitioner at an earlier stage than they would were it not so. Moreover, the fact that the disease is made notifiable is interpreted by the laity that it is a serious complaint, which warrants this step. The opinion has recently been expressed that the onus of notifying should be imposed on the doctor alone and not on the parent or householder. This would serve a double purpose. It would ensure that the majority of patients suffering from conditions simulating morbilli would be under the care of a registered medical practitioner, and it would lessen the proportion of wrong diagnoses. In a typical case, the diagnosis can be made with comparative certainty at the first visit of the doctor. An advantage incidental to the more frequent calling in of a doctor is that the prevalent habit of keeping the room in which the patient is nursed as hot as possible and banning health-bringing fresh air can be counteracted systematically. It thus appears that the notification in the majority of cases could reach the health department sufficiently early for steps to be taken to trace and cope with the source of infection.

In England, the mortality from morbilli is higher than it is within the Commonwealth. Under certain unfavourable conditions of extreme poverty, overcrowding and ignorance, the death-rate of 40% has been recorded. When the social and sanitary conditions are favourable, the death-rate of the disease varies from 2% to 4%. The actual number of deaths from this cause in the various States of Australia is small, but inasmuch as the disease is prevalent and the toll a regular one, means should be adopted to reduce its incidence. It would, in our opinion, be a proper step in the right direction if morbilli were declared a notifiable disease throughout the Commonwealth, and if the duty of notifying were imposed exclusively on the doctor in attendance.

#### A NEW FORM OF TOUTING.

The *Worker*, of Sydney, publishes a story which, if true, should be investigated through and through

and the miscreants concerned hounded out of the city. It is stated that touts hang around the venereal clinic attached to the Royal Prince Alfred Hospital and endeavour to entice patients to seek treatment not at the clinic but from an individual whose skill is extolled. We are told that the arguments used are that the treatment given at the clinic is inefficient, that the patients have to wait and that there is hustling and publicity. All this can be avoided by visiting the expert. From the account, it would seem as if several individuals were undertaking the treatment of these patients. In one instance the tout is supposed to tell his victim that an ex-assistant (probably attendant is meant) had "learned the job from A to Z and had started a practice on his own."

The story is plausible, and we have no reason for doubting its truth. Touting has been proved to exist in Sydney, and at times has assumed a very unsavoury form. It is also well known that charlatans undertake the treatment of venereal and other diseases, often to the irreparable damage of the patients. In the case of ordinary illness, it would seem as if inconceivable foolishness must exist before persons could be tempted to entrust their bodies to the tender care of individuals who have no knowledge of physiology or medicine, and who vaunt cures and promise impossibilities, and invariably succeed in robbing their victims of relatively large sums of money. In the case of venereal infections, the tout no doubt has an easier task. The emphasis on the publicity attached to the clinic is a powerful bait, and is likely to land the fish without a struggle in many instances. One of the chief difficulties of the venereal diseases problem is to ensure adequate and prolonged treatment. The Act of Western Australia contains provisions which, if enforced, should attain this end. We understand that the Bill to be presented to the Victorian Parliament next session will embody the same provisions. Both these measures render it an indictable offence for an unqualified person to treat a patient suffering from a venereal disease. In Sydney, we are told the charlatan and his accomplice, the tout, follow their callings unhampered and at the same time actually divert patients who are about to obtain

proper treatment. There are ways and means for punishing these vipers. We hope that the police will exercise vigilance, and if they catch any one attempting to entice a patient away from the clinic that they will proceed against them for fraud and any other offence that may have been committed.

#### INFLAMMABLE LIQUIDS.

Members of the New South Wales Branch of the British Medical Association are advised to read the regulations issued under the Inflammable Liquid Act, 1916, which we publish on p. 46 of this issue. Medical practitioners frequently find it necessary to store petrol and other inflammable liquids. According to the Act, every person who keeps inflammable liquid except in a licensed store or in registered premises is liable to a penalty not exceeding £50. This provision does not apply to the storage of less than 250 gallons of mineral oil, by which is meant any inflammable liquid, the flashing point of which is not less than 73° F., or less than 16 gallons of mineral spirit, by which is meant any inflammable spirit, the flashing point of which is less than 73° F. Smaller quantities than 16 gallons of mineral spirit must be kept in substantial vessels of metal or other prescribed material, so securely closed and stopped that neither liquid nor vapour can escape. These vessels must not contain more than four gallons each. Another section of the Act provides that if any person keeps or uses mineral spirit in quantities exceeding three gallons elsewhere than in a licensed store or in registered premises for any industrial purpose shall be liable to a penalty not exceeding £100. Although there may be some ambiguity regarding the definition of "industrial purposes," it is unlikely that medical practitioners using petrol for their cars would come under this provision. We assume, therefore, that it is necessary for anyone who stores more than 16 gallons of petrol or who keeps less than this quantity in open vessels, in vessels not complying with the requirements of the section, or in vessels containing more than four gallons of petrol each, to have his premises registered for the purpose. The provisions of the Act aim at a reduction of the risk of fire. Compliance with its provisions is therefore in the direct interest of those householders who keep inflammable liquids on their premises.

#### THE SANITARY PRIVY.

The construction of a sanitary privy is perhaps the most important factor in the control of enteric fever. Where an efficient system for the carriage of sewage by water is in operation, the incidence of enteric fever is diminished. It may therefore be presumed that human excrement is responsible for the infection of a considerable number of persons. Despite much attention by State and municipal authorities, enteric fever still leads to much loss of life and a large expenditure of money in Australia. Only a few cities and towns possess adequate sanitary

means for the disposal of sewage. The earth closet must still be used, even within a few miles of the centre of the State capitals, and is practically universal in country districts.

The construction and hygiene of the earth closet should be studied with the greatest care, since it serves the needs of the greatest number of persons resident in Australia. Mr. E. D. Rich, State Engineer to the Michigan Board of Health, has issued an official publication<sup>1</sup> on the sanitary privy. He lays down some principles that may be usefully discussed. The typhoid bacillus enters the human body with food or drink. If infection is spread from human excrement, food or drink must be contaminated from it. Three routes may be followed by the germ derived from the privy. It may pass through porous ground to the water supply. It may travel along the surface of the ground to the water supply. It may be borne by flies or dust through the air to unprotected food or drink. Much benefit would result from descriptions of the actual paths traversed by the bacilli in those cases in which the course of the germs can be traced.

In the building and arrangement of a privy designed to prevent infection by these three routes, the following essential features are proposed by this engineer. The pan must be water-tight. It hardly seems necessary to lay stress on this point, yet, in practice, leaky pans are not infrequently seen. The height of the seat should be such that not more than one inch should exist between the under surface of the seat and the rim of the pan. Guides should be provided to ensure that the pan takes a proper position. This precaution is not often observed in Australian construction. The pan should be completely enclosed, and a lid should close over the seat when not in use. Protection against flies should be ensured by screened windows, which should provide ample lighting and by a properly fitting door. Dry earth is used to cover the excrement and to absorb all moisture. The contents of the pans should be removed at frequent intervals.

In Australia, a different construction is advised. The door is made with openings above and below. The floor is of concrete. The pan must not be enclosed. A covering of earth constitutes the protection against flies. Some authorities advocate the use of ashes, though the alkali present will lead to the evolution of ammonia. The cement floor is washed with a hose or from a bucket. Such a practice may lead to infection of the surrounding soil.

In weighing the advantages of these various modes of attaining the same end, it must be remembered that much depends on the care with which a privy is kept. While the efficient use of earth will prevent the access of flies, even with an exposed pan, the failure to cover the excrement completely will provide a ready means for infecting flies. Where the pan is enclosed in the dark, flies will not frequent the space in which the pan stands. An open space beneath the seat is more under observation and will be more easily cleansed. Suitable designing could render impossible any contamination with-

out the pan. Frequent emptying of the pan is of much importance in this respect. If pans are of insufficient size and not emptied at stated intervals, infection of the surroundings of the privy must occur.

#### THE CAMPAIGN AGAINST VENEREAL DISEASES.

We have been informed that the Commonwealth Government has decided to assist the State Governments in the endeavour to control the spread of venereal diseases. The sum of £15,000 has been earmarked this year for the purpose of subsidizing on the £ for £ basis the work undertaken by any of the States on certain general conditions. A maximum has been fixed for each State. The *sine qua non* of this offer is that compulsory notification of venereal diseases on lines similar to those obtaining in Western Australia must be introduced. The Commonwealth Government will require evidence that the work has been efficiently planned, and that it will be carried out thoroughly. Facilities must be provided for educating medical students and graduates in modern methods of research and clinical observation. The work will be subject to regular inspection by the Commonwealth authority. In addition to the subsidy, the Commonwealth Government proposes to institute investigations through the Quarantine Bureau, and to embark on an organized research in connexion with some of the problems dealt with by the Departmental Committee.

It will be noted that no attempt is made to render this work federal. The Commonwealth Government does not propose to interfere with the action of the State Governments in their individual attempts to exercise a complete control over syphilis and gonorrhœa. Each State will be free to carry out its own programme. There are indications that some movement will be made in each State. In Victoria, the introduction of a special Bill in the coming session will probably place this State in the same position as Western Australia. The matter has been occupying the attention of the Health Department of New South Wales for a considerable time. In view of the fact that the proposals contained in the Act of Western Australia are to a large extent experimental, it is probably a wiser expedient to leave each State free to adopt such legislative measures as it deems advisable. At a later date, after the experimental stage has passed, uniformity may be aimed at and those expedients which have proved most efficacious in controlling the spread of infection should then be adopted by all the six States. In the meantime, the various States will be well advised to accept the conditions of the Commonwealth Government and to provide night clinics in connexion with the hospitals, laboratories and other facilities. The cost of installation will be borne by the Commonwealth, provided that the work is undertaken in a manner reasonably promising of good results.

It is with deep regret that we have to announce that Lieutenant Douglas Rodger, M.B., Ch.B., F.R.C.S. (Ed.), of Brisbane, who was serving with the R.A.M.C., has been killed in France.

<sup>1</sup> Michigan State Board of Health, Engineering Bulletin, No. 8.



## Abstracts from Current Medical Literature.

### THERAPEUTICS.

#### (14) Uses of Emetin.

G. B. Page describes the preparation, methods of administration and the employment of emetin, the alkaloid obtained from the Brazilian plant, *ipeacuanha* (*Journ. Royal Naval Medical Service*, January, 1916). The clinical actions of the drug are (1) antiseptic, especially amebicidal, and (2) hæmotic. The hydrochloride and the hydrobromide form the most convenient salts for administration. The salts take some time for solution. The author advocates subcutaneous administration. Intra-muscular injections give rise to much irritation. Vomiting follows use by the mouth. The dose may be regarded as  $\frac{1}{2}$  to 1 grain *per diem*. In amebic dysentery the author gives one half grain night and morning. The results observed have been reduction of temperature, disappearance of nausea, less frequent and less urgent calls to stool, abolition of blood from the feces, disappearance of amebæ from the motions, diminution in the number of bacilli in the stools and the prevention of relapses. Emetin has been found useful in the "diarrhœa," so troublesome in the tropics and often due to climatic changes or to dietetic indiscretions. It has not been successful in the treatment of cholera. The drug has been used with advantage in hæmoptysis, in hæmorrhage from gastric ulcer and in dysmenorrhœa in which no organic lesion can be discovered. The author has also given it in an obstinate case of gonorrhœal rheumatism.

#### (15) Poisoning by Beta-Eucaine.

T. G. Orr relates a case of poisoning by beta-eucaine employed to induce local anaesthesia (*Journ. Amer. Med. Association*, June, 1916). The patient was a farmer, aged 60 years, admitted for operation for double inguinal hernia and hydrocele on the left side. The blood pressure was 160 mm. Hg., the walls of the radial vessels were palpable, and the urine contained albumin. The operation was performed under local anaesthesia. Not more than three ounces of an 0.25% solution of beta-eucaine was employed. The patient received one-quarter grain of morphine twenty minutes before the operation. Towards the close of the surgical proceedings, the patient began to perspire freely and to complain of feeling tired. After leaving the table, the skin became clammy, with profuse sweating. Sighing respiration occurred, and the pulse became weak. An hour later the respiration had slowed considerably. Adrenalin was given intravenously. The patient, however, became pulseless, and developed Cheyne-Stokes respiration, in which the intermission of respiration lasted

for nearly a minute. A subcutaneous injection of atropine was administered and a litre of warm saline injected into a vein. The pulse could be detected, beating at 46 times a minute. Four hours later the patient was better, with a pulse-rate of 76. Recovery was uneventful, till the fifth day, when the patient fell back dead on raising himself to take a drink of water. Autopsy revealed an embolus of the left coronary artery.

#### (16) Treatment of Ankylostomiasis.

G. D. Whyte outlines the procedure followed in treating patients suffering from hookworms (*Annals of Tropical Medicine and Parasitology*, April 1916). The feces of the patient are examined for ova. If these are not found, meat is excluded from the diet for three days and the feces are tested for concealed blood, with a reduced alkaline solution of phenolphthalein and hydrogen peroxide. If ova are present or if blood is detected, the patient is admitted into hospital and given a powder of calomel, phenolphthalein and santonin, two hours after a light evening meal. The following morning no food is allowed, but at 6 a.m. and 8 a.m., 40 gr. beta-naphthal are given in suspension with mucilage and peppermint water. At 10 a.m., 30 gr. thymol are administered and, at noon, a draught of magnesium sulphate in hot water. If the bowels do not move by 3 p.m., the draught of salts is repeated. If more than 250 worms are expelled, the treatment is carried out in the same way in seven days, with the exception that the santonin is omitted from the evening powder. If less than 250 worms have been expelled at the first treatment, about one week later meat is excluded from the diet for three days and the stools tested for blood. If this is found, a second treatment is employed. Ten days later the feces are examined for blood. This routine is followed until no blood is found in the motions. When the anthelmintic part of the treatment is at an end, freshly prepared Bland's pills are given to counteract the anaemia. The test for blood has been used 1,636 times upon 500 patients. Of the last 100 patients, 50 required one treatment, 30 two treatments, 12 three courses of medication, one six courses and one eight courses. The author lays much stress on the test for blood in saving time and labour by its substitution for the search for ova in the stools.

#### (17) Kharsivan in the Treatment of Syphilis.

J. S. Dudding gives an account of his experience with substitutes for salvarsan at the Naval Hospital, Haslar (*Journ. Royal Naval Medical Service*, April, 1916). A supply of German-made salvarsan and neo-salvarsan had been available until the early months of 1915. Two substitutes have been used during the year, kharsivan, the preparation made by Burroughs Wellcome & Co., and galyal, a French compound. Sufficient experience has been gained from 300 injections of kharsivan, to admit of its comparison with salvar-

san and neo salvarsan. Before injection, the patient is kept in bed for twenty-four hours. He receives 1 oz. castor oil the evening before the injection, and he takes no solid food for sixteen hours before treatment. The maximal dose of 0.6 gm. is that usually employed, and is dissolved in 300 c.c.m. fluid. The patient is kept in bed for one day after the injection, if he has been injected previously, and for two days, if he is undergoing injection for the first time. The after-effects have been grouped under four headings, (1) no symptoms of any kind, (2) slight fever without symptoms, (3) slight fever with headache, vomiting, etc., and (4) higher fever, with severe symptoms. The results from 100 consecutive administrations of each of the drugs, salvarsan, neo-salvarsan and kharsivan, in which two or more injections have been made, have been used for the comparison. With regard to kharsivan in first injections, 59% of patients have shown no symptoms and 6% severe symptoms. The remaining cases have been evenly divided between the two other groups. At the second injection, 87% of patients showed no symptoms and 4% developed a serious reaction. These results are closely similar to those observed with salvarsan and neo-salvarsan. The author discusses the reactions occurring after injections. He has experienced no effects due to the toxic action of the solvent water. The utmost care has been taken to ensure the absence of any toxic bodies derived from bacteria in the water. In regard to the toxic action of the drug, no signs of arsenical poisoning were observed with the first 250 injections, but a number of cases were then noted. These cases commenced with the use of a fresh "batch" of kharsivan, and ceased when this was no longer used. The author thinks that this indicates that the composition of kharsivan is not constant. He believes that the reactions that he has classified are due to the destruction of spirochaetes, and that their occurrence cannot be prevented.

#### (18) Neuro-Muscular Action of Strychnine.

F. S. Hammett (*Journ. Pharmacology and Exper. Therapeutics*, April, 1916) describes some experiments on the effects of small amounts of strychnine in augmenting the irritability of muscle tissue. In a frog, treated with strychnine previously, sub-minimal stimuli become effective when applied to a nerve connected with its muscle. When the muscle of a frog under the influence of strychnine is stimulated through the nerve, the onset of fatigue is delayed and more work is performed before the muscle is exhausted. When such a muscle is stimulated directly, the total work done is not increased, but more work is done with the first contractions. Fatigue develops, however, at an earlier stage. The author concludes that the seat of the peripheral action of strychnine is upon the receptive substance of the neuro-muscular junction. Its effect is similar to

that observed upon the synapses within the spinal cord, and leads to a diminished resistance to the passage of a nervous impulse and to a facilitation of its transmission across the junction.

## UROLOGY.

### (19) Prostatectomy Under Local and Caudal Anæsthesia.

A. E. Hertzler (*Journ. Amer. Med. Assoc.*, April 29, 1916) holds the opinion that when the bladder and kidneys have been infected for a considerable time, and there is an abundant secretion of urine of a low specific gravity, the administration of a general anæsthetic increases the risk of the operation of prostatectomy not inconsiderably. Under these circumstances, local anæsthesia and the two-stage operation should be resorted to. Local anæsthesia is eminently suitable when the suprapubic method is carried out. The author recommends a combination of sacral nerve blocking and direct prostatic infiltration through a suprapubic wound made at the time of operation or as a preliminary step nine days before. The nerve blocking is affected by injection into the canal above the sacro-coccygeal junction. The solution employed to the sacral injection is 60 c.cm. for a 0.5% novocaine solution, with suprarenin added. At times, he uses from 60 to 90 c.cm. of a 0.6% solution of quinine and urea hydrochloride. The author regards the fear often expressed of introducing the needle into the spinal *dura mater* as much exaggerated. He has performed hundreds of these injections and has never once entered the dural membrane. The needle should be passed at least three inches before the fluid is injected. As the needle is withdrawn, some fluid may enter at the lower end of the canal. He is of opinion that success is largely dependent on passing the needle high enough up the canal and on using a sufficient volume of fluid. The patient is turned on to his back after the injection has been completed. Anæsthesia develops in from 15 to 30 minutes. During this time the suprapubic incision is made under local infiltration anæsthesia and the periprostatic injections are carried out through the bladder wound in the manner described by Crile in his work on "Anoci Association." The author recommends 0.5% solution of novocaine for the suprapubic incision, although the majority of urologists prefer a 0.25% solution. When the operation is carried out in this manner, all that is demanded of the caudal or sacral anæsthesia is that the lifting up of the prostatic tissues shall be possible without pain. The perception of pain from the field of operation is removed with certainty by the prostatic infiltration through the suprapubic wound. The author states that this plan of procedure enables the operator to enucleate the prostate without causing the patient any pain and without having resort to a general anæsthetic.

### (20) Thorium in Pyelography.

Various attempts have been made from time to time to replace collargol by some more suitable substance for the purpose of creating a shadow in pyelography. It has been found that collargol has an irritant action when it escapes into the tissues, and a number of deaths have been reported following its use. The viscosity of the solution renders its elimination from the urinary tract prolonged. Another disadvantage attached to its use is that it stains everything with which it comes in contact. J. Edward Burns has carried out a series of elaborate experiments, with a view of utilizing a salt of thorium (*Bull. Johns Hopkins Hospital*, June, 1916). He discovered that both the nitrate and the chloride of thorium were readily soluble in water, yielding a clear, astringent and acid solution. These solutions are, however, useless, on account of their precipitating action on proteins. Further investigation brought to light the fact that a solution of double citrate of sodium and thorium, with an excess of sodium citrate and of sodium nitrate, possesses all the qualities necessary for an ideal pyelographic medium. The solution used is made up as follows: 10 grms. of thorium nitrate are dissolved in a minimum quantity of distilled water. The solution is heated and to it is added, little by little, 30 c.cm. of a 50% solution of sodium citrate. The solution must be shaken thoroughly after each addition. At first, a white gummy precipitate forms; this becomes granular and eventually dissolves when all the citrate solution is added. The solution is then neutralized by the careful addition of a normal solution of sodium hydrate and the volume is made up to 100 c.cm. with distilled water. On filtration, a clear limpid solution is obtained, which can be sterilized by heat. The author is not quite clear as to the exact chemical condition of the thorium in solution. He gives the four following possibilities: (1) A double salt of thorium trinitrate and sodium citrate with free sodium nitrate, sodium citrate and water, (2) a double salt of thorium nitrate  $[\text{Th}(\text{NO}_3)_2(\text{O}_2\text{C}_2\text{H}_3\text{O}_2\text{Na})_2]$ , (3) a similar double salt, in which the thorium is combined with one molecule of  $\text{NO}_3$ , and (4) a true sodium thorium citrate. This solution has great opacity to X-rays, and as it is absorbed by calcull it accentuates the shadows produced by these structures. The marked degree of fluidity of the solution is of great advantage. A few minutes after the injection had been discontinued, it escapes from the renal pelvis, ureter and bladder. The author has satisfied himself that the solution is not irritating to the mucous membranes of the bladder, ureters or renal pelvis. He has used it in 125 cases, and has demonstrated that it does not produce any urinary symptoms. It is employed by the gravity method, and is not injected by means of a syringe. A series of experiments have been carried out on laboratory animals, with the object of testing the pharmacological action of the solution. Death followed the injection of large doses into the peritoneal cavity and tissues

of animals. This result, however, was by no means constant. He found that 2 c.cm. of a 15% solution per kilogramme body weight, given intraperitoneally, proved fatal. Larger quantities were required by intravenous injection to produce the same result. The author points out that pyelograms and cystograms made with this solution show a splendid shadow, which possesses unusual clearness of delineation. In addition to being non-toxic, it has the advantage of not staining linen and of being about one-third of the price of collargol.

### (21) Bismuth Paste in Genito-Urinary Fistulæ.

E. G. Beck (*Surg., Gynec. and Obstet.*, May, 1916) finds that post-operative urinary fistulæ usually heal spontaneously. Those that do not heal are likely to prove resistant to ordinary methods of treatment for months or years. This is especially the case in tubercular affections. The author records the results obtained in 21 cases of genito-urinary fistulæ, in which he obtained eminently satisfactory results. The paste used is in a fluid or semi-fluid condition. The author fills the sinuses completely with the paste, and states that unless this is done, recurrences are liable to occur. When the sinus is long and tortuous, the paste should be quite fluid. The liquification is effected over a water-bath. The results obtained by means of the paste are illustrated by several radiographs.

### (22) The Pituitary Body and Diabetes Insipidus.

K. Motzfeldt (*Boston Med. and Surg. Journ.*, May 4, 1916) deals with the connexion between diabetes insipidus and a disturbance of the function of the pituitary body, which was first described by Frank in 1912. Since that time, numerous observers have verified his statements, and it is now generally accepted that diabetes and syphilis is caused by an impairment of function of the pituitary gland. Cushing found that polyuria usually appeared after removal of the hypophysis in human beings and also in animals. Lewis and Mathews were able to demonstrate that polyuria was produced in dogs if the *pars intermedia* were injured or removed. The author cites three cases in which a genuine diabetes insipidus was dependent on a weakness or relative insufficiency of the concentration capacity of the kidneys. He finds that subcutaneous administration of extract of the posterior lobe of the hypophysis causes considerable diminution in quantity of the urine and increases in its concentration. The injection of extract of the anterior lobe, however, does not produce this effect. He concludes from his observations that the diabetes insipidus in his three cases was due to an impaired functional activity of the posterior lobe of the pituitary body. Although the disease is a comparatively rare one, a considerable number of cases has been recorded during recent years. The author considers that the connexion between it and disturbances of the pituitary has been proved beyond doubt.

## THE TRAINING OF MIDWIVES IN VICTORIA.

The Midwives' Board of the State of Victoria have issued regulations under the provisions of Section 5 of the Midwives' Act, 1915.

## Proceedings of the Board.

The first set of regulations deals with the meetings of the Board, the quorum, method of voting and the order of business.

## Admission to the Register.

Candidates for examination must submit with the application for permission to sit for the examination a certificate of birth or other satisfactory evidence of age, two certificates of good moral character, certificates of having attended the requisite lectures under approved teachers, a certificate of having passed through the prescribed course of training at an approved hospital, a certificate of having conducted at least 20 cases of labour and of having nursed at least 20 lying-in patients during the ten days following labour, particulars of the training and experience, a copy of a certificate of having completed the certificate of merit standard at a primary school or its equivalent, and a State Savings Bank Deposit receipt confirming the payment of the standard examination fee. A candidate who has complied with these requirements and has passed the prescribed examination shall receive a certificate in the prescribed form and her name shall be entered on the register.

## Course of Training and Conduct of Examination.

The course of training includes the attendance at systematic lectures on midwifery, including elementary anatomy and physiology of the generative organs, on the care and feeding of infants, on invalid cookery and on general nursing. It also includes practical training in these various subjects. A special regulation deals with the hospitals approved for the purposes of training. The examinations are to be conducted under conditions and rules determined by the Midwives' Board. The examiners receive remuneration at the rate of 10s. for each candidate examined.

## Registration of Women Already in Practice.

The registration of women already in practice as midwives at the commencement of the Act is dependent on the applicant being not less than 23 years of age, on the production of evidence of good character and on the payment of a registration fee. The further conditions are that the applicant must produce a certificate from an approved training school of not less than twelve months' training or evidence that she is already registered or eligible for registration under any Act for the registration of nurses, which may come into force in Victoria, or, lastly, a certificate of six months' training in midwifery and evidence that she is registered in the general register of the Royal Victorian Trained Nurses' Association. It is further provided that a woman who, within two years of the commencement of the Act produces evidence that she has been in *bona fide* practice as a midwife in Australasia, may be registered, and a woman who produces evidence that she has been trained as a midwife and registered in any other part of His Majesty's dominions in which there is an Act or Ordinance for the registration of midwives and which admits to its roll of registered midwives registered under the Act on reciprocal terms, may be registered, provided that the standard of training and examination is held to be equivalent to the standard prescribed by the regulations.

## Regulations of the Practice of Midwives.

These regulations provide in detail directions concerning the practice of midwives. The first deals with the question of cleanliness, the second with the contents of the midwife's bag, including the antiseptic she is required to carry, the third and fourth with the necessity of disinfecting the hands and instruments or appliances before bringing them into contact with the patient, and the fifth with the necessity of special disinfection after the midwife has been in contact with a patient suffering from puerperal fever or other infectious illness. The sixth regulation requires a midwife to give an address where she can be found without delay when leaving a patient in labour. After the commencement of the second stage of labour, the midwife

is required to stay with the woman until after the expulsion of the placenta. When a doctor has been called on account of an abnormality or of threatened danger, the midwife must await his arrival and carry out his instructions faithfully. Among the other regulations dealing with the duties of the midwife to her patient is one prescribing that no more internal examinations shall be made than are absolutely necessary. Her duties to the child are that she shall perform artificial respiration by the method taught her if the child is born apparently dead, that the eyelids shall be carefully cleansed if possible before the baby opens its eyes, and, lastly, when the baby is in danger of death, the parents, or the nearest available relatives shall be informed of the baby's condition.

The midwife is not allowed to lay out the body of any person, except the body of a lying-in woman on whom she has been in attendance, or of a still-born child or of an infant dying within 10 days of birth. This rule does not apply when the midwife is not attending a midwifery case at the time and when the person has died of a non-infective illness. A midwife must allow authorized persons to inspect her instruments, etc., and must notify the Board of her intention to practice as a midwife, to continue in practice, of any change of address and of every death or still-birth which occurs in her practice. She is required to keep a record of her cases in the prescribed form.

A midwife shall be suspended temporarily if she contracts an infectious disease, or if she has been in attendance on any person suffering from an infectious disease, or if she refuses or neglects to carry out the provisions of the regulations. She may be suspended if she disobeys the regulations, or if she is guilty of misconduct or malpractice, or her name may be removed from the register. Before the removal of the name of a midwife from the register, she shall have the opportunity of giving an explanation.

## PETROL AND OTHER INFLAMMABLE LIQUIDS.

Last year the Parliament of New South Wales passed into law an Act dealing with the risks attached to the storage of inflammable liquids. On June 16, 1916, the regulations under the *Inflammable Liquid Act*, 1915, have been issued. The following is the text:—

1. Applications for the licensing of stores, and applications for the registration of premises, shall be made in writing to the Chief Inspector on the forms marked "A" and "B" respectively in the Schedule hereto.
2. Applications for the renewal, transfer, revocation, alteration, and amendment of any license or registration shall be made to the Chief Inspector in writing.
3. Every application shall be accompanied by the fee prescribed in Regulation 5.

4. Licenses for stores and certificates of registration shall be granted, renewed, transferred, altered, and amended by the Chief Inspector, but such licenses and certificates, and any renewal, transfer, alteration or amendment thereof, may be signed on behalf of the Chief Inspector by an officer duly authorised by him.

All such licenses and certificates shall be in the forms respectively marked "C," "D" and "E" in the Schedule hereto.

All such licenses and certificates shall expire on the thirtieth day of June in each year.

5. Fees, as specified hereunder, shall be paid under this part of these Regulations, viz:—

For every original license and for every subsequent renewal thereof:—	£	s.	d.
Stores under Division A, for quantities 4,000 gallons and under . . . . .	1	0	0
Stores under Division B, for quantities exceeding 4,000 gallons . . . . .	2	0	0
For every transfer, alteration, or amendment of a license . . . . .	0	10	0
For every certificate of registration and for every subsequent renewal thereof	0	10	0
For every transfer, alteration, or amendment of a certificate . . . . .	0	5	0

6. All licenses and certificates shall be issued and held subject to such conditions and restrictions as are or may be prescribed.



7. Unless otherwise specified in the license or certificate, depôts shall be constructed of brick, concrete, iron, or other non-inflammable material, and may consist of strong and efficient metal tanks situated above or under ground, hereinafter referred to as "tank depôts."

8. Every depôt shall be efficiently ventilated, and all ventilating openings shall be thoroughly protected by fine wire gauze.

9. Every depôt, other than an approved underground tank depôt, shall be of a capacity at least ten per centum greater than the volume of the inflammable liquid kept therein.

10. Every depôt, according to the nature and quantity of inflammable liquid kept or to be kept therein, shall be separated from all protected works by the distances herein set out, viz.:—

**Table I.—Where Inflammable Liquid, including Mineral Spirit (with or without Mineral Oil) is kept or to be kept:**

In an Under-ground Tank Depôt, in quantity exceeding 500 gallons, but not exceeding—	In an above-ground Tank Depôt, or other Depôt wholly surrounded by a screen wall, in quantity exceeding 100 gallons, but not exceeding—	In an above-ground Tank Depôt, or other Depôt not wholly surrounded by a screen wall, in quantity exceeding 100 gallons, but not exceeding—	Distance not less than—
Gallons.	Gallons.	Gallons.	Feet.
2,000	1,000	250	10
4,000	2,000	500	15
20,000	10,000	2,500	20
40,000	20,000	5,000	30
80,000	40,000	10,000	40
Unlimited.	80,000	20,000	50
	160,000	40,000	75
	Unlimited.	80,000	100
		Unlimited.	150

**Table II.—Where Mineral Oil only is kept or to be kept:**

In an Under-ground Tank Depôt, in quantity exceeding 800 gallons, but not exceeding—	In an above-ground Tank Depôt, or other Depôt wholly surrounded by a screen wall, in quantity exceeding 800 gallons, but not exceeding—	In an above-ground Tank Depôt, or other Depôt not wholly surrounded by a screen wall, in quantity exceeding 800 gallons, but not exceeding—	Distance not less than—
Gallons.	Gallons.	Gallons.	Feet.
4,000	2,000	1,000	10
8,000	4,000	2,000	15
40,000	20,000	10,000	20
80,000	40,000	20,000	30
160,000	80,000	40,000	40
Unlimited.	160,000	80,000	50
	Unlimited.	160,000	75
		Unlimited.	100

11. No artificial light shall be taken into a depôt unless its construction and character are of such a nature that the light is incapable of igniting any inflammable vapour outside of the lamp itself. If the light is obtained by some means of combustion, the lamp shall be constructed on the principle of the "Davy Miners' Safety Lamp" or otherwise constructed and situated as approved of by an Inspector. If it is an electric light it shall be of the incandescent form, and special precautions shall be taken in regard to the wiring and fittings. All switches and fuses shall be outside the building, or enclosed in safety cases of metal or gauze. The wires shall be led through bonded and earthed metal pipes. All metal in contact with the source of electric supply shall be either well coated with insulated material or else entirely enclosed in a globe or metal case, and in no case shall any current-bearing part be exposed so that inflammable vapour can come into contact therewith.

12. Sand placed in bins, with all necessary pails, scoops, and other appliances, shall be kept in registered premises and licensed stores in such quantities and in such manner as may be directed by an Inspector.

If directed by an Inspector, one or more chemical fire extinguishers of a pattern approved by the Chief Inspector shall be kept in registered premises and licensed stores, in addition to sand.

Powdered carbonate of soda, dry earth free from vegetable matter, or any other material approved of by an Inspector, may be used in lieu of sand.

13. Whenever there occurs any accident by explosion or fire in or about or in connexion with any registered premises or licensed store, or any accident by explosion or fire causing loss of life or personal injury in or about or in connection with any registered premises or licensed store, the occupier shall forthwith send or cause to be sent to the Chief Inspector notice of such accident and of loss of life or personal injury (if any) occasioned thereby.

14. Where in, about, or in connection with any ship, boat or carriage, either conveying any inflammable liquid or on or from which any inflammable liquid is being loaded, unloaded or conveyed, there occurs any accident by explosion or fire, and such accident has caused loss of life or personal injury, the owner or master of such ship, boat, or carriage, and the owner of the inflammable liquid being loaded, unloaded, or conveyed, shall forthwith send or cause to be sent to the Chief Inspector notice of such accident and of loss of life or personal injury (if any) occasioned thereby.

15. When an accident by explosion or fire has wholly or partly destroyed any depôt, such depôt shall not be reconstructed, and no inflammable liquid shall be placed therein except with the permission of the Chief Inspector, and any inflammable liquid placed therein in contravention of this Regulation shall be deemed to be kept in an unauthorized place.

Provided that this Regulation shall not prevent the reconstruction of any lawfully existing depôt in its previous position with such precautions as may seem reasonable to the Chief Inspector, unless, prior to such accident, notice has been sent to the occupier that the situation or construction thereof is not to the satisfaction of the Chief Inspector.

16. Every occupier of registered premises or a licensed store shall enter in a book or other suitable record to be kept by him for that purpose the name and address of every person to whom, and the date on which, any inflammable liquid is consigned or delivered, together with the description and quantity thereof so consigned or delivered. Such book or record shall be shown to an Inspector whenever required.

Provided that this Regulation shall not apply to quantities of inflammable liquid which may be kept in stores or premises not required to be licensed or registered.

17. Where inflammable liquid is kept in accordance with the Act, a quantity not exceeding three gallons may be kept in separate glass or earthenware vessels each containing not exceeding one half pint, and so securely closed or stopped that neither liquid nor vapour can escape therefrom.

18. The following persons shall be liable to a penalty not exceeding fifty pounds in the event of any breach (by act or default) of any of the foregoing Regulations, viz.:—

- The person committing such breach;
- The owner or master of the ship, boat, or carriage in respect of which the breach was committed;
- The occupier of the registered premises or licensed store in respect of which the breach was committed; and
- The owner of the inflammable liquid in respect of which the breach was committed.

The forms have not been reproduced, on account of the limitation of our space,

## Public Health.

## THE HEALTH OF NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the week ending July 1, 1916:—

Disease.	Metropolitan Combined Districts.		Hunter River Combined Districts.		Remainder of State.		Total.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever ..	2	0	0	0	13	1	15	1
Scarlatina ..	44	1	2	0	50	4	96	5
Diphtheria ..	50	1	3	0	65	2	118	3
C'bro-Sp'l Menin.	0	0	0	0	1	1	1	1
Infantile Paralysis	1	1	0	0	0	0	1	1
Pul. Tuberculosis	26	11	1	0	†	0	27	11
Malaria ..	1	0	0	0	0	0	1	0

† Notifiable only in the Metropolitan and Hunter River Districts.

## THE HEALTH OF VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending July 3, 1916:—

Disease.	Metro- politan.		Rest of State.		Total.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Diphtheria ..	69	3	57	1	126	4
Scarlatina ..	19	0	27	0	46	0
Enteric Fever..	0	0	2	1	2	1
Pulmonary Tuberculosis	35	16	15	6	50	22
C'bro-Spinal Meningitis	10	—	8	—	18	—
Infantile Paralysis	0	—	1	—	1	—

## INFECTIVE DISEASES IN QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending July 1, 1916:—

Disease.	No. of Cases.
Diphtheria ..	41
Enteric Fever..	6
Pulmonary Tuberculosis	5
Ankylostomiasis ..	1
Cerebro-Spinal Meningitis	1
Scarlet Fever..	7
Varicella ..	5
Malaria ..	4

## THE HEALTH OF TASMANIA.

The following notifications have been received by the Department of Public Health of Tasmania during the week ending July 1, 1916:—

Disease.	Hobart. Cases.	Launceston. Cases.	Country. Cases.	Whole State. Cases.
Diphtheria ..	1	1	21	23
Scarlatina ..	1	1	1	3
Pulmonary Tuberculosis	0	0	2	2
Puerperal Fever ..	0	0	1	1
C'bro-Spinal Meningitis	0	0	5	5

## THE HEALTH OF WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending June 17, 1916:—

Disease.	Perth.		Fremantle.		Rest of State.		Total.	
	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.
Enteric Fever..	0	0	0	0	4	0	4	0
Diphtheria ..	4	2	14	0	20	0	20	0
Pulmonary Tuberculosis	4	1	6	0	11	0	11	0
Scarlatina ..	3	1	4	0	8	0	8	0
C'bro-Spinal Meningitis	0	2*	0	0	2	0	2	0

\* On board a Troopship.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending June 24, 1916:—

Disease.	Perth.		Fremantle.		Rest of State.		Total.	
	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.
Enteric Fever..	1	0	1	0	2	0	2	0
Diphtheria ..	6	1	11	0	18	0	18	0
Scarlatina ..	0	1	1	0	2	0	2	0
Pulmonary Tuberculosis	3	1	0	0	4	0	4	0
Erysipelas..	1	0	1	0	2	0	2	0

## INFECTIVE DISEASES.

The Bulletin of the Quarantine Service, issued on June 23, 1916, contains the following information:—

## Variola.

During the period from June 9 to June 22, 1916, there were three cases of variola reported in New South Wales. One of these cases had not yet been confirmed.

Since the issue of the last bulletin, 208 cases and 53 deaths had been reported in the Dutch East Indies. There were 97 cases and 17 deaths reported from Kobe, in Japan, between March 20 and May 25. During the fortnight ending May 20, 28 cases and 19 deaths were reported in Hong Kong. There were 11 deaths from this disease at Rangoon during the week ending May 20, 1916. In the Straits Settlements 3 cases and 2 deaths were reported in the first 27 days of May.

## Plague.

The number of cases of plague recorded in India in the week ending May 6, 1916, was 1,944. In the same period there were 1,521 deaths. From April 21 to May 4, 1916, there were 258 cases and 124 deaths in Egypt. In the week ending May 20, 1916, there were 19 deaths from plague at Rangoon, and in the fortnight ending May 19 there were 14 cases and 23 deaths in Jaava. In Ceylon there were 3 cases between April 30 and May 14, in Hong Kong there were 2 cases and 2 deaths between May 14 and May 25, and in the Straits Settlements there were 2 cases and 1 death between May 28 and June 20, 1916.

## Cholera.

During the fortnight ending May 27, 1916, 26 cases of cholera were reported and 16 deaths. Since the issue of the last bulletin, 18 cases and 8 deaths were reported in the Dutch Indies.

## Amendment of Quarantine Regulations.

The Quarantine Regulation 67 (1915), dealing with the fees payable for the fumigation or disinfection of vessels, has been repealed and a fresh regulation has been made in lieu thereof.

## THE HEALTH OF ADELAIDE.

The sixth annual report of the Metropolitan County Board has been issued in Adelaide, and contains a considerable variety of information. The income of the Board for the year 1915 amounted to £3522, of which £2193 were derived from contributions from the local boards and £1340 from fines. The income is £147 larger than that of the previous year.

## Poison Regulations.

A set of regulations relating to the sale of poisons came into effect on July 1, 1915. It appears that the Central Board of Health determined that it would administer these regulations, and notified the County Board to this effect. The County Board ascertained that it possessed the same powers in reference to the regulations relating to the sale of poisons as it had to any other regulations under the Food and Drug Act, 1908. In acquiescing in the administration of the regulations being taken over by the Central Board of Health, the County Board protected its own rights, and insisted that the Central Board of Health had no power to execute or enforce any of the provisions of the Food and Drugs Act unless or until a local authority had failed to do so.

## Food Standards.

In previous years the County Board urged the adoption of regulations and standards in respect of various articles coming within the scope of the Food and Drugs Act, 1908. On February 25 the regulations and standards were published in the *Government Gazette*. The regulations were divided into three sets, the first of which came into operation on April 1, 1915, the second came into operation on July 1, 1915, and the third on January 1, 1916. A petition, signed by manufacturers of aerated waters, praying that the regulations referring to these articles be disallowed, was presented on July 27, 1915. Similar petitions in regard to labels, preservatives, and artificial sweetening substances used in the brewing trade, and in regard to preservatives used in the manufacture of various drinks, were also lodged. Motions for disallowance were carried on September 6, 1915. Regulation No. 68 contains sections which, if in force, would

prevent the importation of "Irish Pot Still Whisky." A petition that these sections be disallowed was lodged, and the motion was carried without opposition. In reply to a further petition, signed by three soap manufacturers, it was stated that regulation No. 75 applied exclusively to toilet soap.

#### Milk Supply.

A large number of samples of milk were examined by the Officers of the Board. Of 430 samples 44 were found to be adulterated, 28 with added water, 16 were deficient in fat, and 1 had added preservative. The Board point out that prosecutions apparently had no terrors for some offenders. In one case the result of the analysis led to the conclusion that the fluid offered for sale as milk was diluted, concentrated or unsweetened condensed milk. Beyond communicating the results of the analysis and the opinion of the analyst to the ratepayers complaining of the milk, no action could be taken on these samples. The Inspector procured samples from the same vendor on the following day, and the analyst certified that these samples conformed to standard. It is stated that one great weakness of the system is that since the result of the analysis of the sample cannot be ascertained at once, the bulk of the milk from which the sample has been procured passes into consumption before any action can be taken.

A Royal Commission was appointed at the Board's request to investigate the condition appertaining to the milk supply of the metropolitan country district. The report of this Commission was forwarded to his Excellency the Governor in November. This report has already been discussed in this Journal (see *The Medical Journal of Australia*, January 8, 1916, pp. 31-33).

#### Infectious Diseases.

As a result of a request from the Adelaide Local Board, the Metropolitan County Board have considered the question of the appointment of a smaller Board to administer the Food and Drugs Act and infectious diseases under the Health Act, and a special committee issued a report on July 21, 1916. After considering in all its bearings the propositions submitted to it, the Committee recommended that nothing would be gained by propounding a scheme, and that the Adelaide Local Board be informed that the time was inopportune for proposing any alterations in the functions or constitution of the Metropolitan County Board.

#### Health Act Amendment Bill.

The Board have considered and approved of certain amendments in the Health Act Amendment Bill, which was before Parliament during the course of the year.

#### Appendix.

Appended to the report is the Chief Inspector's report, which contains a large amount of important data. In regard to the distribution of infective diseases, Dr. Borthwick points out that 911 notifications were received during the year. Morbilli was the most prevalent of these diseases; 108 notifications have been received by the County Board, 558 by the local Boards, and 14 from ships. There were 66 cases of pulmonary tuberculosis notified, 25 to the County Board, 39 to the local boards, and 2 from ships. The total number of cases of diphtheria was 56, of scarlet fever was 34, of cerebro-spinal meningitis was 19, of enteric fever was 19, and of erysipelas was 19, of pertussis was 11, of puerperal fever was 5, and of varicella was 2. No case of pulmonary tuberculosis of enteric fever occurred in premises occupied by persons directly or indirectly connected with the milk business.

During the course of the year 15,652 dairy cattle were inspected, and 13 were found diseased. There were 4 cases of tuberculosis, 3 of actinomycosis, 2 each of mammitis and malnutrition, and 1 each of cancer and hydatids. A considerable mortality was discovered in a large herd of pigs, death being due to impaction of bowel, peritonitis and septic pneumonia.

#### THE WESTERN AUSTRALIAN HEALTH ACT.

The regulations amplifying the Health Act, 1911-1915, of Western Australia have been published in the *Government Gazette* of June 2, 1916, and the various forms and pamphlets have now been issued to medical practitioners. In

Form A the nature of the venereal infection and the sex and age of the patient has to be stated. This form is for use in all fresh cases, and the duty devolves on the practitioner to explain to the patient the communicable nature of the complaint and to hand him or her a pamphlet issued by the Department of Public Health. The pamphlet contains a short, elementary description of syphilis, gonorrhoea and soft sore; a paragraph setting forth that prompt, expert and persistent treatment is required to ensure cure; a paragraph pointing out that sexual intercourse is not necessary for health or essential to manhood; and, lastly, a paragraph giving sound advice, with the object of avoiding infection and also of informing the individual, should infection have taken place, what his legal obligations are.

Form B has to be used when the patient absents him- or herself from treatment for a period of more than six weeks. In this certificate, the name and address of the patient has to be disclosed. Form C is for use by a practitioner who is called upon to treat a patient previously under the care of another practitioner. Form D is a certificate to the effect that, to the best of the practitioner's knowledge, the patient is not at the time suffering from venereal disease in any form. In a note attached to this certificate, it is specially pointed out that it does not constitute a guarantee of cure. It merely indicates that the practitioner can no longer detect signs or symptoms of venereal disease. Patients suffering from syphilis are warned that they should not regard themselves as cured unless active treatment has been continued for at least two years. In the case of gonorrhoea, the sufferer is told that the disappearance of visible discharge is not definite evidence of the absence of infectivity.

Circulars explaining the uses of the various forms, etc., and calling attention to the provisions made by the Department of Public Health for the carrying out of laboratory aids to diagnosis, are also sent to medical practitioners. A second circular is addressed to every chemist (*i.e.*, pharmacist), enclosing a copy of the Act and explaining the provisions contained therein in regard to the position of unqualified persons treating these diseases. The pharmacist is appealed to to assist the Department in carrying out the provisions of the Act faithfully.

#### INSANITY IN WESTERN AUSTRALIA.

The Inspector-General of the Insane for Western Australia (Dr. S. H. R. Montgomery) has issued his report on the conditions of the Hospitals for the Insane during the year ending December 31, 1914. The report contains a financial statement for the year ending June 30, 1915. On December 31, 1914, there were 983 persons certified as insane in the State, of whom 700 were males and 283 females. At the commencement of the year, there were 934 patients in the hospitals. The increase for the year was thus 49, of which 31 represented males and 18 females. The proportion of insane to sane persons in the State was 1 to 329. Although the proportion has increased during the last thirteen years, the number of insane persons relative to the total population is less than in any of the other States, except South Australia. The number of admissions for the year was 244, of which 165 were of male and 79 of female persons. The proportion of admissions to population was 7.53 per 10,000. The re-admissions numbered 27, or only 11% of the total admissions. The number of patients discharged was 111, of whom 98 were discharged recovered. The proportion of recoveries to admissions was 40%. Since the patients admitted to the hospitals are not of the temporary insane class, this proportion of recoveries is regarded as very gratifying. During the year, 275 persons were admitted to the Mental Ward, Perth Public Hospital. Four patients died, 159 were discharged, two were transferred to the Inebriates' Home and 102 were admitted to the Hospital for the Insane. Heredity was noted as a predisposing cause of insanity in 47 patients admitted during the year, senility in 28 patients and venereal disease in 18 cases. Alcohol was regarded as the exciting cause in 70 cases, epilepsy in 10 cases and puerperal factors in 8 cases. During the year, 84 inmates died, of whom 67 were males and 17 females. General paralysis of the insane caused 23 deaths. There were 7 deaths from phthisis, 4 from dysentery, 6 from pneumonia and 16 from senile decay. Of the



patients admitted in the year, 117 were born in Australia and 126 elsewhere.

The amount spent on the maintenance of the patients during the financial year was £48,656, or £51 per head per annum. The amount of £8,000 was received as revenue, being chiefly made up of £3,800 for patients' fees and £3,100 from the dairy farm. The farms are not only a source of revenue, but afford occupation to the patients.

## Vital Statistics.

### HOBART AND LAUNCESTON.

The Government Statistician has published the vital statistics for the registration districts of Hobart and Launceston for the year 1915. There were 2,286 births registered, 1,161 of males and 1,125 of females. The number of births is greater than the average of the last five-year period. The birth-rate works out at 35.74 per 1,000 of population, and is 35.19 for Hobart and 36.62 for Launceston.

There were 1,029 deaths, of which 634 occurred in Hobart and 395 in Launceston. In 372 instances the deaths occurred in public institutions. There is an increase in the number of deaths of 33.8 on the average number of deaths registered during the preceding five years. The death-rate for the two districts was 16.09 per 1,000, being 16.04 for Hobart, and 16.16 for Launceston. Of the total number of deaths, 192 were of infants under one year of age. The infantile mortality in Hobart was 85.5 per 1,000 births, and in Launceston it was 81.56 per 1,000 births. The deaths of children under 5 years of age represented 22.13% of the total number of deaths, while those of persons of 65 or over represented 31.58%.

Diseases of the cardio-vascular system caused 110 deaths in Hobart, and 77 in Launceston. These include 72 deaths in Hobart from organic diseases of the heart, and 50 in Launceston, 22 of cerebral hæmorrhage in Hobart and 15 in Launceston. There were 48 deaths from tuberculosis in Hobart and 25 in Launceston. Pulmonary tuberculosis killed 35 and 18 persons in the two towns respectively. Pneumonia caused 26 deaths in Hobart and 11 in Launceston, while broncho-pneumonia caused 5 in Hobart and 14 in Launceston. Diarrhoea and enteritis were responsible for 23 deaths in Hobart and 21 in Launceston. Diphtheria caused 9 deaths in Hobart and 10 in Launceston, enteric fever 5 and 6, influenza 6 and 4, whooping cough 2 and 3, and syphilis 3 and 2. There were 9 deaths from cerebro-spinal meningitis in Hobart and 4 in Launceston, in addition to 5 deaths from meningitis in Hobart and 7 in Launceston. Seven deaths were caused by acute bronchitis and 7 by chronic bronchitis in Hobart, while the same conditions caused 2 and 6 deaths respectively in Launceston. Cancer killed 47 persons in Hobart and 39 in Launceston. Bright's disease was the cause of death 28 times in Hobart and 10 times in Launceston.

It appears that the number of deaths from diseases of the cardio-vascular system has not increased materially during the past five years. There has been a marked decrease in both cities in the number of deaths from tuberculosis, and a distinct increase in the number of deaths from diphtheria. The frequency of death from enteric fever has tended to keep at the same level in the Hobart district, and to diminish in the Launceston district. Cancer has increased in both districts.

### VICTORIA.

The usual quarterly returns of the vital statistics of the State of Victoria for the period ending March 31, 1916, have been published in the Government Gazette of June 9, 1916.

#### Population.

The estimated population on December 31, 1915, exclusive of full-blooded aborigines, was 1,417,801. This number is 12,866 less than that of the estimated population on December 31, 1914. The decrease resulted from a loss by emigration of 32,052, counteracted by the natural increase in population, which amounted to 19,186. The majority of the emigrants were members of the Australian Expeditionary Forces.

### Marriages and Births.

During the quarter ending March 31, 1915, 3,171 marriages were contracted. The number of marriages is in excess of the number in the corresponding quarter of any of the preceding five years. The lowest figure was recorded in 1915, viz., 2,535, and the highest in 1913, viz., 2,752. The average for the five years was 2,653.4. The number of births registered was 8,333. The average number for the corresponding quarter of the preceding five years was 8,488.6. In Greater Melbourne, 4,321 births were registered during the quarter. There were 50 cases of twins and 317 illegitimate children.

### Deaths.

During the quarter, the number of deaths registered was 4,111. In the corresponding quarter of the preceding year, 3,524 deaths were registered. The highest number since 1911 was 4,075, in 1913.

### Causes of Death.

Very little information is published in regard to the causes of death throughout the whole State. It appears that there were 339 deaths due to cancer, 228 to pulmonary tuberculosis, 52 to other forms of tuberculosis, 44 to diphtheria, 35 to enteric fever, and 1 to measles.

More detail is given in regard to the causes of deaths registered in Melbourne, Ballarat, Bendigo and Geelong. There were 326 deaths due to diseases of the cardio-vascular system registered in Melbourne and suburbs. Of these, 184 were instances of organic diseases of the heart, 80 of cerebral hæmorrhage and 22 of atheroma, aneurysm, etc. The number of deaths from diarrhoea and enteritis was 355, 304 being deaths of children under two years of age. Tuberculosis accounted for 147 deaths, including 118 from pulmonary tuberculosis. There were 46 deaths from pneumonia and 37 from broncho-pneumonia, 30 from diphtheria, 23 from pertussis, 26 from cerebro-spinal meningitis, 18 from chronic bronchitis, 10 from enteric fever, 6 from acute rheumatism, 12 from syphilis, 12 from acute endo-carditis, 5 from septicæmia and the same number from simple meningitis, 4 from encephalitis, 3 from influenza and the same number from acute bronchitis and scarlatina, and 1 each from morbilli, cholera nostras, dysentery, anthrax, tetanus, and beri beri. There were 112 deaths from Bright's disease and six from acute nephritis, and 14 from cirrhosis of the liver. Two deaths from puerperal septicæmia were recorded. The number of deaths from the individual affections in Ballarat, Bendigo and Geelong are too low to justify any deductions being made as to frequency.

### THE UNIVERSITY OF SYDNEY.

Part IV. of the Official Year Book of New South Wales, 1915, dealing with education, has been issued by the Government Statistician. The greater part of its contents deals with the statistical abstracts of primary and secondary education.

Under the heading, University of Sydney, a short history of the establishment and organization of the university is given. The Act of Parliament incorporating and endowing it was passed in October, 1850. The government was entrusted to a Senate of 16 elected members, and not more than 6 professors acting as *ex officio* members. In 1850 there were three chairs; one for classics, one for mathematics and one for chemistry and experimental physics. In 1858 a Royal Charter was granted recognizing the degrees in arts, law and medicine as academic distinctions of merit. Various changes were effected between this time and 1900, when the various enactments were consolidated. In 1912 the constitution of the Senate was amended. It now consists of four Fellows appointed by the Governor, one Fellow appointed by the Legislative Council and one by the Legislative Assembly, five Fellows representing the teaching staff, ten Fellows elected by the graduates and three Fellows elected by the members of the Senate. At the time of incorporation, the Government endowment amounted to £5,000 a year. In 1913 this amount was increased to £20,000, while in the year 1914-15 the total endowment from the State amounted to £46,000. The total amount of private benefaction, including increases in value

and unawarded scholarships, reached the sum of £550,710. The Challis estate contributed £276,856.

There are at present four faculties. In the Faculty of Arts the course for the Bachelor of Arts occupies three years, and the total cost of graduation is given at £55 8s. The course for the LL.B. is four years, and the cost of graduation £109 13s. There is a five-year course in medicine, and the cost of graduation as Master of Surgery and Bachelor of Medicine is £163 4s. The dental course is a four-year one, and the cost of graduation as Bachelor of Dental Surgery is £154 16s. In the Faculty of Science the course for the B.Sc. is three years, for the B.E. is four years, for the B.V.Sc., for the B.Sc.Ag. is four years and for the Diploma of Military Science is three years. The cost of graduation for the five last-mentioned degrees or diplomas is £71 3s., £125 8s., £80 12s., £83 15s., and £15 12s. respectively. The Diploma in Tropical Medicine necessitates a term of study of three months, including a course at the Australian Institute of Tropical Medicine. The cost is £15 17s. Since the foundation of the University, 4,451 degrees have been conferred, 3,811 to males and 640 to females. The medical degrees include 57 of M.D., all the recipients being males, 770 of M.B., 729 of the recipients being males and 41 females, and 482 of Ch.M., 452 of the recipients being males and 30 being females. The degree of D.Sc. has been conferred on 18 male graduates, while that of B.Sc. on 130 males and 31 female graduates. The number of students in the year 1876 was 58, including 24 non-matriculated. In 1914 there were 1,244 matriculated and 430 non-matriculated students. In the same year, 472 men and 30 women were undergoing a medical course, while three male practitioners attended a post-graduate course.

In 1873 the Government began the erection of the Royal Prince Alfred Hospital as a general hospital, medical school and training school for nurses. In 1811 the Sydney Hospital was founded. This hospital contains a clinical school, under the direction of a Board of Medical Studies. The Royal Hospital for Women, Royal Alexandra Hospital for Children, St. Vincent's Hospital, Gladesville and Callan Park Hospitals for the Insane, The Women's Hospital, The Randwick Hospital for Infants and South Sydney Hospital for Women are recognized as places where study may be undertaken in connexion with the Faculty of Medicine.

There are four affiliated colleges, at which 161 students were in residence during 1914; St. Andrew's College (Presbyterian) is the largest and St. John's College (Roman Catholic) is the smallest. The colleges have been endowed privately, but the Government pays the sum of £500 per annum for the salary of the Principal.

Reciprocity between the University of Sydney and the Universities of the United Kingdom exists. Admission *ad eundem gradum* to the University of Sydney is granted to graduates of the universities of Oxford, Cambridge, London, Durham, Victoria, St. Andrew's, Edinburgh, Glasgow, Aberdeen, Dublin, Ireland, Melbourne, Adelaide and New Zealand.

A large amount of other information of educational interest is to be found in this publication.

#### THE BROKEN HILL AND DISTRICT HOSPITAL.

The position of the Broken Hill and District Hospital appears to be serious, in view of the fact that the Surgeon Superintendent, Dr. M. Birks, has no assistant to help him. During the month of May there have been between 103 and 117 patients in the hospital. We understand that the Board of Management has given Dr. Birks permission to engage assistants. Exception has been taken to this method of procedure, in that it throws the duty of staffing the hospital on the shoulders of the Medical Superintendent. As we have already pointed out in these columns, experience gained at the hospital must prove to be of great value to any young practitioner undertaking the duties of assistant. It is to be hoped that someone will come to Dr. Birks' assistance and help him to carry out his important and arduous duties.

## Correspondence.

### THE METRIC SYSTEM IN PRESCRIBING.

Sir,—Having read Dr. Verco's paper on "The Metric System in Prescribing" with much interest, may I, as a willing disciple, who has been long waiting for someone to explain away the supposed difficulties which my obtuse mind found, add a note? Being rather mechanical in my habits, I seized with avidity the simple method he describes, as follows, and finally designates as "infantile."

"Write down the amounts of the ingredients in each dose in grains or minims, without putting against them any designations whatever, and order sixteen such doses."

It must be admitted that Dr. Verco's indictment of this method is just, as it would, by itself, never familiarize the user with the doses of drugs in metric measure, and so is only a "temporary expedient," and not an aid to beginners, such as the method here suggested seems to be. I have tested this latter in many instances, and always found the right dose. Only the gramme and millilitre or mil are used, though the usefulness of the terms decigramme and decimil, etc., is not called into question. It involves a little calculation at first, though use soon familiarizes one with the metric equivalents of the more usual Imperial doses. In this way the calculation soon becomes unnecessary, while gradually the prescriber shortens his mental processes and "thinks" metrically.

The method is simply to take the dose proposed stated in grains or minims and divide this number by 16, which gives the equivalent dose in grammes and mils respectively. Thus, Dr. Verco's prescription becomes:—

Tr. senegæ	m. xv. write 15, divide by 16 = 0.93, say 1
Tr. digitalis	m. v. write 5, divide by 16 = 0.31, say 0.3
Oxym. scillæ	3 ss. write 30, divide by 16 = 1.86, say 2
Aq. ad.	3 ss. write 240, divide by 16 = 15.00, say 15

*Mitte xvi. doses; quater in sum. die.*

For those accustomed to think in Imperial quantities per eight-ounce bottle, the method can be applied to write a similar prescription in metric quantities. Such an one would write the prescription as follows, allowing for rounding off the doses:—

Tr. senegæ	m. xv.
Tr. digitalis	m. v.
Oxym. scillæ	3 ss.
Aq. ad.	3 ss.

Expressed as minims (or grains), the figures become 240, 90, 480, 3,840 respectively. Divide by 16 as before and you have 15, 5.6, 30, 240, or, in round figures, 15, 5, 30, 240, which are the quantities in mils (or grammes) in an eight-ounce bottle.

However, here the method is more cumbersome, and would prove a very "temporary expedient," as it would bring one no nearer the desired haven—a "finger-tip" knowledge of the doses of drugs expressed according to the metric system.

I should be glad of kindly criticisms of this method by your readers, who may see fallacies in it which I have inadvertently failed to detect.

If I owe an acknowledgement to any previous writer on this method I beg to apologize for its omission, as I am at present unaware of its necessity.

Yours, etc.,

G.P.

### A PERSONAL MATTER.

Sir,—I notice some comment in regard to the circumstances of my return from Egypt in an article entitled "The Case of Lieutenant-Colonel Barrett," in your issue of May 20. Although I am under the keenest sense of injustice, I feel it is the duty of a citizen to subordinate personal concerns while the war continues, but intend, when it is over, to press for a full and searching enquiry into the matter so far as I am concerned with it. I do not wish silence on my part to be taken for acquiescence.

Yours, etc.,

J. BELL,

Lady Superintendent, Melbourne Hospital.  
Melbourne Hospital,  
June 26, 1915.

## STAMPING OF LODGE RECEIPTS.

Sir,—In your issue of May 20, a letter from Dr. C. H. E. Lawes states that the New South Wales Commissioner of Duty Stamps has given a ruling that it is not necessary to place duty stamps on Friendly Society receipts in that State. This has naturally raised the question, what is required in Victoria? Under the Stamps Act, 1915, a list of exemptions from taxation is given in the Third Schedule: "Receipt or discharge for any money paid by any Friendly Society for sick pay." Can these last three words be construed as applicable to money received by a lodge medical officer? There is, however, another exemption: "Salary or wages under £5." Is the money paid to a medical officer "salary"? I am supported in my contention that it is, and any fees paid under a lodge agreement less than £5 should be regarded by the lodge surgeon as "salary," and so be free from stamp duty.

Yours, etc.,

ARCH. G. BLACK.

Carlton, July 4, 1916.

## Books Received.

**SURGERY IN WAR**, by Alfred J. Hull, F.R.C.S., with a Preface by Sir Alfred Keogh, K.C.B., M.D., 1916. London: J. & A. Churchill; Crown 8vo., pp. 390. Price, 10s. 6d.

**THE MEDICAL ANNUAL: A YEAR-BOOK OF TREATMENT AND PRACTITIONERS' INDEX**, 1916, Thirty-Fourth Year. Bristol: John Wright & Sons, Ltd.; Demi 8vo., pp. 919.

**ENCYCLOPEDIA MEDICA**, Second Edition, under the General Editorship of J. W. Ballantyne, M.D., C.M., F.R.C.P.E.; Vol. III, Choleraform to Dyspnoea; 1916, Edinburgh and London: W. Green & Son, Ltd.; Sole Agents for Sydney and Wellington, N.Z.: Butterworth & Company (Australia), Ltd.; Royal 8vo., pp. 672. Price, £1.

**ASIATIC CHOLERA**, by J. S. C. Elkington, M.D., D.P.H.; Issued under the authority of the Minister for Trade and Customs, 1916. Melbourne: Government Printer; Royal 8vo., pp. 80.

**ACUTE POLIOMYELITIS** (Heine-Medin's Disease), by Dr. Ivan Wickman, of Stockholm, translated by W. J. M. A. Maloney, M.D., F.R.S. (Ed.), 1913. New York: The Journal of Nervous and Mental Disease Publishing Company; Royal 8vo., pp. 135, two plates and illustrations in the text. Price, \$3.

## Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xix.

Education Department, New South Wales, Medical Officer (Female).

Women's Hospital, Melbourne, Resident Medical Superintendent.

## Medical Appointments.

## IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
<b>QUEENSLAND.</b>	
(Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Brisbane United F.S. Institute.
<b>WESTERN AUSTRALIA.</b>	
(Hon. Sec., 230 St. George's Terrace, Perth.)	Swan District Medical Officer. All Contract Practice Appointments in Western Australia.
<b>SOUTH AUSTRALIA.</b>	
(Hon. Sec., 3 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide.

## Branch.

## APPOINTMENTS.

<b>NEW SOUTH WALES.</b>	Department of Public Instruction—New Appointments as Medical Officer, Ophthalmic Surgeon, Ear, Nose and Throat Surgeon, Physician. Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance Association and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phoenix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Orange. F.S. Lodges at Parramatta, Penrith, Auburn, and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
<b>VICTORIA.</b>	Brunswick Medical Institute. Bendigo Medical Institute. Prahran United F.S. Dispensary. Australian Prudential Association Proprietary, Limited. National Provident Association. Life Insurance Company of Australia, Limited. Mutual National Provident Club.
<b>NEW ZEALAND: WELLINGTON DIVISION.</b>	F.S. Lodges, Wellington, N.Z.
(Hon. Sec., Wellington.)	

## Diary for the Month.

July 15.—Northern Suburbs Med. Assoc. (N.S.W.).
July 18.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
July 19.—W.A. Branch, B.M.A., General.
July 25.—N.S.W. Branch, B.M.A., Medical Politics, Organization and Science Committee.
July 26.—Vic. Branch, B.M.A., Council.
July 27.—S.A. Branch, B.M.A., Branch.
July 28.—N.S.W. Branch, B.M.A., Ordinary.
Aug. 2.—Vic. Branch, B.M.A., Branch.
Aug. 4.—Q. Branch, B.M.A., Branch.
Aug. 8.—N.S.W. Branch, B.M.A., Ethics Committee.
Aug. 10.—Vic. Branch, B.M.A., Council.
Aug. 11.—N.S.W. Branch, B.M.A., Clinical Evening.
Aug. 11.—S. Aust. Branch, B.M.A., Council.
Aug. 15.—N.S.W. Branch, B.M.A., Executive and Finance Committee.

## EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.

Covers for binding *The Medical Journal of Australia* for Vol. I., 1916, can be obtained on application to the Manager, B.M.A. Building, 30-34 Elizabeth Street, Sydney. The price of a cloth cover is 2s. and of half leather 3s. 6d.; postage, 7d.